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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/687,683	10/12/2000	Thomas R. Bayerl	Sprint IDF 1502	7761
28003	7590	08/24/2004	EXAMINER	
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			ART UNIT	PAPER NUMBER
			2666	3

DATE MAILED: 08/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/687,683

Applicant(s)

BAYERL ET AL.

Examiner

Inder P Mehra

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 October 2000.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 October 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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DETAILED ACTION

1. This is in response to application dated: 10/12 2000

Specification

2. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within *the range of 50 to 150 words*. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

3. The disclosure is objected to because of the following informalities:
 - Refer to page 13 line 1. Docket number 1497 should be replaced by
Application number or patent number should be assigned.Appropriate correction is required.

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Drawings

4. Figures 1-3 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.121(d)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1-19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a. Claim 1 recites the following limitations:

- "the sampling rate" in line 1;
- "the end of the network" in line 4.

There is insufficient antecedent basis for this limitation in the claim.

b. Claim 3 recites the limitation "the arrival rate" in lines 1-2. There is insufficient antecedent basis for this limitation in the claim.

c. Claim 4 recites the following limitations:

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- "the fill level" in lines 2, 3 and 6;
- "the midpoint" in lines 4 and 6.

There is insufficient antecedent basis for this limitation in the claim.

d. Claim 7 recites the limitation "the frequency divider" in line 1. There is insufficient antecedent basis for this limitation in the claim.

e. Claim 8 recites the following limitation:

- "the sampling rate" in line 1;
- "the outgoing cells" in line 5;
- "the incoming cells" in line 6;
- "the rate of coding" in line 7

There is insufficient antecedent basis for this limitation in the claim.

f. Claim 9 recites the following limitations:

- "the fill level" in line 2;
- "the midpoint" in line 4.

There is insufficient antecedent basis for this limitation in the claim.

g. Claim 10 recites the limitation "the sampling rate" in line 1. There is insufficient antecedent basis for this limitation in the claim.

h. Claim 19 recites the limitation "fill level" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1, 8, 10 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Piunno, Jr. et al** (US Patent No. 6,711,222), hereinafter, Piunno Jr. and further in view of **Sugar** (US Patent No. 5,790,538).

For claims 1, 8, 10, and 16, Piunno, Jr. discloses a method for synchronizing sampling rate of digital cells (digital sampler 43, col. 4 lines 19-21) in an integrated services hub (FPGA 100 in fig. 3), refer to abstract, 28 sampler in fig. 2, and col. 1 lines 5-10; comprising:

- **as recited by claims 1 and 16**, extracting from the network connection a reference sampling rate representing the rate of sampling occurring at the end of the network connection opposite from the end (refer to col. 1 lines 65-67 and col. 2 lines 17-20) connected to the integrated service hub (refer to col. 1 lines 65-col. 2 line3, col. 2 lines 19-21 and col. 2 lines 48-55);
- **as recited by claim 1**, adjusting the sampling rate in the integrated services hub to about equal the reference sampling rate (refer to col. 1 lines 34-36, col. 3 lines 39-43, col. 4 lines 21-23, col. 4 lines 32-45 and col. 5 lines 25-43).
- **as recited by claim 8**, transmitting outgoing digital cells and receiving incoming digital cells to and fro the integrated services hub across a network, refer to "Tx bus/optic data and Rx bus/optic data" in fig. 3, refer to "digital frequency synthesizer", col. 1 lines 5-10;

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- **as recited by claim 8**, coding the outgoing cells prior to their transmission from the integrated services hub, refer to “sampling the incoming data stream” col. 4 lines 18-22 and col. 5 lines 52-60, “optic encoder46 to sample out data” in fig. 3, refer to col. 4 lines 59-61;
- **as recited by claim 8**, decoding the incoming cells following their receipt by the integrated services hub (FPGA 100 in fig. 3), refer to col. 5 lines 60-67;
- **as recited by claim 8**, adjusting the rate of coding and decoding in the integrated services hub to about equal the arrival rate of cells to the integrated services hub (FPGA 100 in fig. 3), refer to col. 23 lines 48-55, col. 1 lines 34-37, col. 3 lines 39-43, col. 4 lines 21-23, col. 4 lines 32-45 and col. 5 lines 25-43.
- **as recited by claim 10**, a sampling rate adjuster (sampler 28 in fig. 2, dynamic sampler 43 in fig. 3) receiving a baseline clock signal and a reference sampling rate-----adjusting the baseline clock signal to about equal the reference sampling rate and outputting a sampling rate signal to the adjusted baseline clock signal, refer to col. 1 lines 33-36, col. 2 lines 48-53 and col. 3 lines 38-43;
- **as recited by claim 10**, a CODEC in communication with and receiving the sampling rate signal from the sampling rate adjuster, refer to control loop 58 in fig. 3, fo/m in fig. 1, and refer to col. 1 lines 48-57, col. 2 lines 3-16, col. 4 lines 17-30;

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- **as recited by claim 10**, a feed back loop communicating the sampling rate signal from the sampling rate adjuster, refer to fo/m from 16c to 14 block in fig. 1, control loop 58 in fig. 3, refer to col. 1 lines 50-55, col. 2 lines 48-67 to col. 3 line 2, col. 4 lines 4 lines 18-45.

Piunno, Jr does not disclose CPU, CODEC and digital cells expressly, which are disclosed by Sugar, as follows:

- synchronizing sampling rate of digital cells (the frequency difference between the service and source node clock is encoded during packetizing ---signals into **the cells that are transported through ATM network**-----reducing the timing difference ---, refer to col. 2 lines 24-28);
- CODEC in communication with and receiving the sampling rate signal from sampling rate adjuster, refer to fig. 6, col. 9 lines 5-45;
- a central processing unit communicating with and controlling the sampling rate signal fro the sampling rate adjuster, refer to abstract and col. 3 lines 40-50.

It would have been obvious to a person of ordinary skill in the art at the time of the invention to use the capability of synchronizing sampling rate of digital cells; CODEC in communication with and receiving the sampling rate signal from sampling rate adjuster, and a central processing unit communicating with and controlling the sampling rate signal fro the sampling rate adjuster. The capability can be implemented by introducing the system as taught by Sugar. The suggestion/motivation to do so would

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have been to synchronize the input and output rates in order to avoid loss of data and jitters.

For claims 3 and 18, Piunno Jr. discloses all the limitations of subject matter of the claims, including the following limitation:

- the reference is extrapolated from the arrival rate arrival rate , refer to 16 if fig. 1 and sampler28 of fig. 2, and control loop of fig. 3, refer to col. 4 lines 30-35;

Piunno Jr. does not disclose expressly incoming cells;

Sugar discloses the reference is extrapolated from the arrival rate arrival rate of incoming cells, refer to fig. 6, col. 9 lines 5-45;

It would have been obvious to a person of ordinary skill in the art at the time of the invention to use the capability of synchronizing sampling rate of digital cells. The capability can be implemented by introducing the system as taught by Sugar. The suggestion/motivation to do so would have been to synchronize the input and output rates in order to avoid loss of data and jitters.

For claims 4, 9, and 19, Piunno Jr. discloses all the limitations of subject matter including the following limitation:

- monitoring the fill level of incoming cells received into an incoming cell buffer, refer to col. 1 lines 11-col. 2 line 32;

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- increasing the sampling rate ---in response to an increase in the fill level of the incoming cell buffer above the midpoint, refer to col. 4 lines 57-67,
- decreasing the sampling rate in the integrated services hub in response to decrease in the fill level of the incoming cell buffer below the midpoint, refer to col. 4 lines 55-57, col. 1 line 11 to col. 2 line 32.

Piunno Jr. does not disclose expressly fill level of incoming cells;

Sugar discloses in fig. 6 and 7, fill level 6, refer to abstract, col. 3 lines 40-48 and col. 9 lines 5-15.

It would have been obvious to a person of ordinary skill in the art at the time of the invention to use the capability of fill level of digital cell bufer. The capability can be implemented by introducing the system as taught by Sugar. The suggestion/motivation to do so would have been to synchronize the input and output rates in order to avoid loss of data and jitters.

For claims 5-7 and 11-13, Piunno Jr. discloses all the limitations of subject matter including the following limitation:

- a voltage controlled oscillator (VCO54 in fig. 4) to increase and decrease the sampling rate in the integrated services hub, refer to abstract, col. 1 lines 25-27, col. 2 lines 1-2, and 32-36, col. 4 lines 57-60, and col. 5 lines 50-55.

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- using a programmable frequency divider to increase and decrease the sampling rate in the integrated services hub, **as recited in claims 6 and 12**, refer to col. 1 lines 18-20 and 12 and 16c in fig. 1;
- the programmable frequency divider is a baud rate generator, **as recited by claims 7 and 13**, refer to “produces output cycle”, col. 1 lines 19-20.

For claims 14 and 15, Piunno Jr. discloses all the limitations of subject matter including the following limitation:

- the reference sampling rate is the baseline clock signal, **as recited by claim 14**, refer to “clock in 30” in fig. 2 and col. 1 lines 50-55;
- the baseline clock signal is produced by a local clock, **as recited by claims 15**, refer to VCO system clock 54 in fig. 3, refer to col. 4 lines 17-25.

9. Claims 2 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Piunno, Jr. et al** (US Patent No. 6,711,222), hereinafter, Piunno Jr., in view of **Sugar** (US Patent No. 5,790,538), and further in view of **Tyburski et al** (US Patent No. 5,495,470), hereinafter, Tyburski.

For claims 2 and 17, Piunno, Jr. discloses all the limitations of subject matter, and including reference sampling rate as embedded signal, refer to control loop 58 in fig. 3, Sugar discloses (frequency control signal—a continuous phase resampler---, refer to col. 3 lines 45-50), which is the same as the reference sampling rate signal;

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However, Tyburski discloses expressly the following limitation:

- the reference sampling rate is an embedded signal, refer to (The reference signal can be any (embedded or direct interface col. 3 lines 60-67).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to use the capability of the reference sampling rate is an embedded signal. The capability can be implemented by introducing the system as taught by Tyburski. The suggestion/motivation to do so would have been to synchronize the input and output rates in order to avoid loss of data and jitters.

Prior Art

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Sartain et al (US Patent No. 6,169,747) discloses dynamically compensates for differences in data rates for multistreamed system.
- Patchen (US Patent No. 4,862,482) discloses a receiver for extracting binary data from a Manchester encoded input signal.

Conclusion

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Inder P Mehra whose telephone number is 703-305-1985. The examiner can normally be reached on 8AM to 5PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on 703-308-5463. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Inder P Mehra
Examiner
Art Unit 2666



DOUGHTON
PRIMARY EXAMINER